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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,952	12/09/2003	Jeffrey Douglas Brown	AUS920030614US1	3693

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EXAMINER

DANG, KHANH

ART UNIT

PAPER NUMBER

2111

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/730,952	<b>Applicant(s)</b> BROWN ET AL.	
	<b>Examiner</b> Khanh Dang	<b>Art Unit</b> 2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

Claims 1-5, 7-11, 13-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is directed to a method of improved resource arbitration. However, it is unclear what part of the claim is the improvement of the method.

Claim 7 is directed to an apparatus for providing improved resource arbitration. However, it is unclear what part of the claim is the improvement of the apparatus.

Claim 13 is directed to a computer program product for providing improved resource arbitration. However, it is unclear what part of the claim is the improvement of the computer program product.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 6, 12, 13, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Chow et al. (Chow, 6,438,134).

With regard to claim 6, Chow discloses a method of arbitrating a plurality of resource access requests (queues holding messages are divided into subgroups as showed in at least Fig. 8, for example, destined for a resource 16), using at least one arbitration point, the method comprising the steps of: dividing the resource access requests into subgroups (as clearly showed in at least Fig. 6, the queues holding messages are divided into subgroups; arbitrating each subgroup using an arbitration point (20a/b; 114a/b/c/d/e, each subgroup has a particular level of priority and is selected to be serviced based on priority) to obtain a smaller set of resource access requests (1, 2, P1-P4, for example); and repeating the above two steps for the smaller set of resource access requests until a single resource access request remains (each subgroup is further arbitrated using 112, 116, 30, for example, until a single resource access request for resource 16 remains).

With regard to claim 13, see discussion regarding to claim 6 above.

With regard to claim 13, see discussion regarding to claim 6 above.

With regard to claim 18, see discussion regarding to claim 6 above. Note also that hardware and software are logically equivalent. Any operation performed by software can also be built directly into the hardware and any instruction executed by the hardware can also be simulated in software.

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Claims 6, 12, 13, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Pham (5,832,278).

With regard to claim 6, Pham discloses a method of arbitrating a plurality of resource access requests (a plurality of current resource request signals arbitrated by first level arbiter 36 a, b, c), using at least one arbitration point, the method comprising the steps of: dividing the resource access requests into subgroups (see at least col. 4, line 34 to col. 5, line 7); arbitrating each subgroup using an arbitration point to obtain a smaller set of resource access requests (resource request signals for second level arbiter 34); and repeating the above two steps for the smaller set of resource access requests until a single resource access request remains (the resource request signals destined for the second level arbiter 34 are divided into group 0-2 with wrap 0-2, and arbitrated using second level arbiter 34 until one resource access request signal 40 remains).

With regard to claim 13, see discussion regarding to claim 6 above.

With regard to claim 13, see discussion regarding to claim 6 above.

With regard to claim 18, see discussion regarding to claim 6 above. Note also that hardware and software are logically equivalent. Any operation performed by software can also be built directly into the hardware and any instruction executed by the hardware can also be simulated in software.

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***Allowable Subject Matter***

Claims 1-5, 7-11, 13-17 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

U.S. Patent Nos. 6,473,817 to Jeddeloh, 6,385,678 to Jacobs et al., 6,909,691 to Goyal et al., 5,850,399 to Ganmukhi et al., and US Patent Application Publication No. 2004/0210695 to Weber et al. are cited as relevant art.

Any inquiry concerning this communication should be directed to Khanh Dang at telephone number 571-272-3626.

A handwritten signature in black ink, appearing to read "Khanh Dang", with a stylized flourish at the end.

Khanh Dang  
Primary Examiner